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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/803,957	03/19/2004	Jean-Michel Franchet	250653US41	7171

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EXAMINER

ABOAGYE, MICHAEL

ART UNIT	PAPER NUMBER
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1725

DATE MAILED: 02/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/803,957

Applicant(s)

FRANCHET ET AL.

Examiner

Michael Aboagye

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/21/2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) 1-6 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-10 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☒ Claim(s) 1-10 are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>03/19/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group III (claims 7-10) in the reply filed on December 12, 2005 is acknowledged. The traversal is on the ground(s) that there is no additional burden on the examiner to examine all groups of claims together, such that the inventions are so closely related that the field of search necessary to properly search any one of the inventions would encompass the other inventions as well. Therefore, since a different search is not required; there is no serious burden as required by MPEP 803.

This is not found persuasive because, the elected Group III while being related as a process, a product made and a method of using when compared to Group I and Group II respectively would cause undue burden in the searching for hollow mechanical product that are made by a variety of processes different from that of group III.

The requirement is still deemed proper and is therefore made FINAL.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

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The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract is objected to because it exceeds the permissible range of 50 to 150 words.

3. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

(a) TITLE OF THE INVENTION.

(b) CROSS-REFERENCE TO RELATED APPLICATIONS.

(c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR
DEVELOPMENT.

(d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT

(e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A

COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer

program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)),

and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or

REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a).

"Microfiche Appendices" were accepted by the Office until March 1, 2001.)

(f) BACKGROUND OF THE INVENTION.

(1) Field of the Invention.

(2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.

(g) BRIEF SUMMARY OF THE INVENTION.

(h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).

(i) DETAILED DESCRIPTION OF THE INVENTION.

(j) CLAIM OR CLAIMS (commencing on a separate sheet).

(k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).

(l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A

"Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Claim Objections

4. Claim 10 objected to because of the following informalities: the language "any one of claim 7" is unclear. Appropriate correction or clarification is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wallis (US Pub No. 2001/0022023) in view of Turner (US patent No. 4869422).

Wallis discloses a process for manufacturing a hollow stack (94) by diffusion bonding and superplastic forming, comprising the following steps: at least two primary sheets (90,92) are provided, said primary sheets having mating faces and a periphery; a stop-off material (116) is deposited in a predefined pattern on at least one face of each pair of those intended mating faces of the said primary sheets; said primary parts are joined together around their said periphery with the exception of a place forming a

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passage; a pipe (122) is joined to the stack to form a welded assembly, wherein the joining is done such that the pipe is welded around the periphery to project from the primary sheets so that it communicates with the pairwise groove or cavity (124,126); the pipe is connected to a vacuum pump to evacuate the cavity of the stack to partial vacuum and purged with argon to ensure removal of all traces of oxygen between the primary sheets; the welded assembly is evacuated and placed in an oven, and heated to the thermal degradation temperature of the said binder, thereby allowing the gases resulting from the degradation of the binder to be evacuated continuously, after baking the assembly is cooled and the pipe is sealed, the assembly is set in an autoclave and heated to the diffusion bonding temperature, pressure is applied to cause the stack assembly to undergo hot isostatic pressing diffusion bonding; the pipe is separated from the bonded stack is placed in a die; and the said die is brought to the superplastic forming temperature and an inert gas is injected under the superplastic forming pressure via the said passage in the said cavity, whereby the stack undergoes inflation and superplastic forming a blank turbine engine fan blade (see figures 1, 3-5, abstract, paragraph, [0008]- [0062]).

Wallis does not teach attaching a reservoir to the stack assembly to suck out the gases resulting from the degradation of the binder.

However, Turner teaches a method of liquid interface diffusion bonding a host tabular member (10) to tubular cladding member (14), wherein the cladding member is telescopically inserted into the host member leaving an annular space (20) therebetween; a bonding alloy (12) and flux is applied to the faying surfaces of the

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joining members; the first end 14B of the cladding member is welded to the first end 10B around the entire circumference of the host member to form an airtight seal annular space, the annular space is evacuated and purged with an inert gas through an opening (30); a reservoir (bag) made of a metallic material is joined to the two joining members to communicate with the annular space via the opening (30) to form an assembly, the assembly is heated under pressure to cause the host member to bond with the cladding member followed by rolling, wherein the reservoir which is removed after the bonding process facilitates in the evacuation of the annular space thereby preventing reintroduction into the annular space, water vapor, oxygen and contaminants during heating which when present will compromise the integrity of the rolling step and the final product (see Turner, figure 1 and 2, column 2, line 25 – column 5, line 67).

It would have been obvious to one of ordinary skill in the art at the time the applicants' invention was made to have modified the method of Wallis to include an attached evacuation reservoir in view of Tuner to allow evacuation of burn offs or contaminants given off during the heating process with the advantage of safeguarding the integrity of the bond formed between the joining members (see Turner, column column 4, lines 43 – 68).

7. Claims 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Salt (US patent No. 5711068) in view of Turner (US patent No. 4869422).

Salt discloses a process for manufacturing a hollow stack from a preform (80) by diffusion bonding and superplastic forming, comprising the following steps: at least two primary sheets (6,7) are provided, said primary sheets having mating faces and a periphery; a stop-off material is deposited in a predefined pattern on at least one face of each pair of those intended mating faces of the said primary sheets; said primary parts are joined together around their said periphery with the exception of a place forming a passage; a pipe (81) is joined to the stack to form a welded assembly, wherein the joining is done such that the pipe is welded around the periphery to project from the primary sheets so that it axially communicates with the passage cavity; the pipe is connected to a vacuum pump to evacuate the interior of the stack to partial vacuum and purged with argon to ensure removal of all traces of oxygen between the primary sheets; the welded assembly is evacuated and placed in an oven, the welded assembly is heated to the thermal degradation temperature of the said binder, thereby allowing the gases resulting from the degradation of the binder to be evacuated continuously, after baking the assembly is cooled and the pipe is sealed, the assembly is set in an autoclave and is heated to the diffusion bonding temperature and pressurized to the diffusion bonding pressure, which causes said stack to undergo hot isostatic pressing diffusion bonding; the pipe is separated from the bonded stack is placed in a die; and the said die is brought to the superplastic forming temperature and an inert gas is injected under the superplastic forming pressure via the said passage in the said cavity, whereby the stack undergoes inflation and superplastic forming a blank turbine engine

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fan blade (see figures 1, 8, abstract, column 1, line 1 –column 2line 67, and column 3, line 1 – column 5 line 67).

Salt does not teach attaching a reservoir to the stack assembly to suck out the gases resulting from the degradation of the binder.

However, Turner teaches a method of liquid interface diffusion bonding a host tabular member (10) to tubular cladding member (14), wherein the cladding member is telescopically inserted into the host member leaving an annular space (20) therebetween; a bonding alloy (12) and flux is applied to the faying surfaces of the joining members; the first end 14B of the cladding member is welded to the first end 10B around the entire circumference of the host member host to form an airtight seal annular space, the annular space is evacuated and purged with an inert gas through an opening (30); a reservoir (bag) made of a metallic material is joined to the two joining members to communicate with the annular space via the opening (30) to form an assembly, the assembly is heated under pressure to cause the host member to bond with the cladding member followed by rolling, wherein the reservoir which is removed after the bonding process facilitates in the evacuation of the annular space thereby preventing reintroduction into the annular space, water vapor, oxygen and contaminants during heating which when present will compromise the integrity of the rolling step and the final product (see Turner, figure 1 and 2, column 2, line 25 – column 5, line 67).

It would have been obvious to one of ordinary skill in the art at the time the applicants' invention were made to have modified the method of Salt to include an attached evacuation reservoir in view of Tuner to allow evacuation of burn offs or

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contaminants given off during the heating process with the advantage of safeguarding the integrity of the bond formed between the joining members (see, Turner, column column 4, lines 43 – 68).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Johnston et al. (US 5344063), Fowler et al. (US 5479705), Milburn (US 6264091), Bichon et al.(US 5826332), Paez et al.(US 4304350), Cruse et al. (US 4787821), Bottomley et al. (US 5024368) and Cooper et al. (US 5069383) are also cited in PTO- 892.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Aboagye whose telephone number is 571-272-8165. The examiner can normally be reached on Mon - Fri 8:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Michael Aboagye
Assistant Examiner
Art unit 1725

02/21/2006

KEVIN KERNS
PRIMARY EXAMINER

Kevin Kerns 2/21/06